



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBW6305G17131-3G
Job Sheet 172376



allib.

Part No: RBW6305G17131-3G

Job Qty: 3 ea

Part Name: Drive Quill Seal Housing Removal Tool



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 2/16/18

Job Tracking No:

Due Date: 2/28/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBW6305G17131-3G Rev 3 IPP Rev A 18.02.14 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	3 pcs		2/28/18	0.00	0.00	Purchasing		<i>AT 18/04/26</i>
110	Packaging	3 pcs		2/28/18	0.00	0.00	Packaging2		<i>AT 18/04/26</i>
120	QC	3 pcs		2/28/18	0.00	0.00	QC6		<i>APR 26 2018</i>
130	Packaging	3 pcs		2/28/18	0.00	0.00	Packaging3 <i>DAS</i>		<i>GA092</i>
140	QC21-FG	3 Ea		2/28/18	0.00	0.00	QC21 <i>27</i> APR 27 2018		<i>APR 27 2018</i>

Part Op 100 - Issue PO to ARROW TECH MACHINE WORKS P/O: *D39084* MANUFACTURE RBW6305G17131-3G AS PER
Descriptions: DWG -Certificate of conformity is required

FEB 22 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBW6305G17131-3GP	Drive Quill Seal Housing Removal Tool	3 (1 ea)	100-Purchasing	<i>5065470</i>

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RBW6305G17131-3GP	3	0	0

Part Specifications

Specifications could not be found.

Plex 2/16/18 8:00 AM Dart.lajeunesse.marie

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS					
Part No. _____		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
NCR No. _____		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
	Large Fab ☐	Composite ☐	Supplier ☐				

Date : _____ Step #: _____ QTY Effective : _____ MRB (QSI042) Approval _____

Description Work Order Deviation _____

Mfg Date: 04/26/18
Job No: 172376

Packaging

PART NO: RBW6305G17131 - 3G
Serial No/Batch: S065471
Operation: Revision: Change No:

**S065471**

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 Hawkesbury, ON K6A 1K7
 CANADA
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 Email: sales@dartaero.com
 www.dartaerospace.com

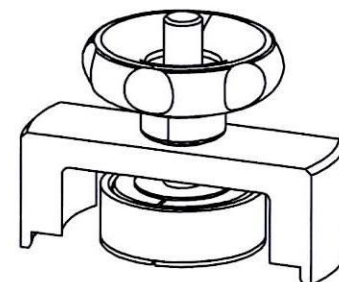
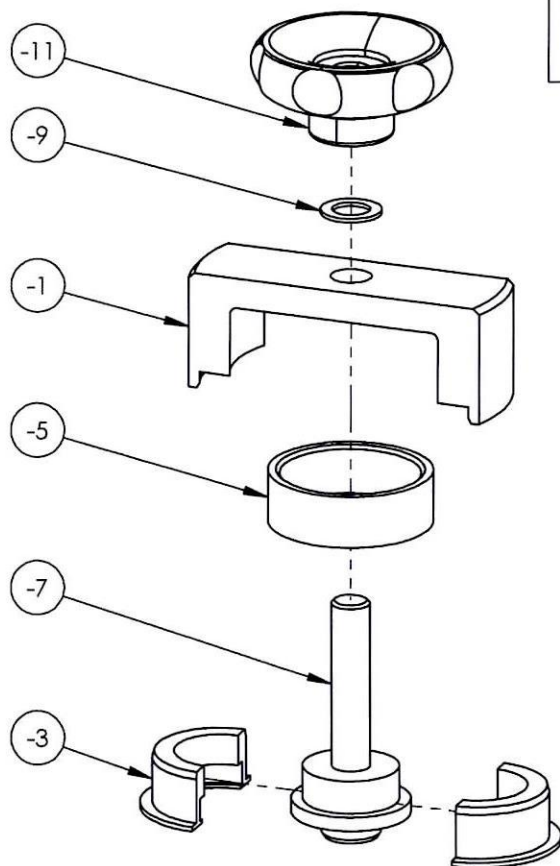
Root Cause

Environment ☐	No Re-verification ☐
Design ☐	Operator ☐
Doc/Data ☐	Offset/Setup ☐
Equip/Tooling ☐	Supplier ☐
Handling/Pre ☐	Training ☐
Material ☐	Use for Testing ☐
Internal Transport ☐	Poor Information ☐
Tribal Knowledge ☐	Rushing ☐
LOA ☐	Product Improvement ☐
Substation ☐	Process Improvement ☐
Past Expiry Date ☐	Manufacturing Process ☐
Misidentified ☐	Past Due ☐

Crushing ☐Heat Treat ☐Wave/Twist in Tube ☐Marks/Chatter ☐OTHER : ☐Contamination ☐Countersink ☐Cut Too Short ☐Instructions Incomplete/Unclear ☐Drill Holes ☐Unqualified ☐Wrong Stock Pulled ☐Out of Sequence ☐Off-set ☐Mislabeled ☐Fit/Function ☐Misaligned/off center ☐Positioned Wrong ☐Outside Dimensions ☐Over/Under tolerance ☐Part Incorrect ☐Part Lost/Missing ☐Part Moved ☐Drawing ☐Finish ☐Misread ☐Turning Sequence ☐

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		CH'D -5 BOM INFO PER S.E. CH'D -1 ENGRAVE NOTE PER R.W. CH'D -3 CUTLINE GAP FROM .040 PER G.E.	5/9/2011	RJC	RW
1A		CH'D TOOL NAME WAS DRIVE SEAL HOUSING REMOVER IS TOOL, PUMP 1-2-3 DRIVE QUILL SEAL HOUSING TO MATCH PARTS MANUAL.	11/1/2013	RJC	RW
2		-1 CH'D MATERIAL WAS 6061 SQ. BAR IS PLATE, CH'D B/O INFO WAS 2 X 2 X 5-1/2 IS 2 X 2-1/4 X 5-7/16, MOVED DATUM A TO BOTTOM SURFACE. -3 ADDED DATUM REF. C TO  CONTROL. -5 CH'D FORM CONTROL WAS  IS // . CORRECTED HATCHING ON SECTION A-A. CH'D TOLERANCE ON NON-CRITICAL PARTS.	5/16/2014	DPD	GE
3	17-0104	UPDATED TO NEW STANDARD. ADDED OEM REF NOTE. -1 CH'D DIMS WAS 1.572 IS 1.57, WAS 1.967 IS 1.97. CORRECTED GD&T. -3 CH'D DIM WAS .945 IS .95. DELETED DIM 2X 1.316. CORRECTED GD&T. -5 CH'D DIM WAS .866 IS .87. -7 CH'D MAT'L WAS 4140 Q&T IS 4140/4142. ADDED HEAT TREAT RC 28-34. CH'D FINISH WAS CAD PLATE YELLOW QQ-P-416F TYPE II CLASS II IS ZINC PLATE ASTM B633 TYPE I SC2. -9 CH'D MAT'L FROM 5052 TO ALUMINUM. -11 CH'D B/O REF WAS 5/8-11 REID #KHN-115 IS 5/8-11 X Ø3.27 X 1.57 (MSC #52216553).	4/26/2017	DPD	JAG



NOTES:

- PART OF KIT RBW6305G01531-3G, BOX ONE RBW6305G19631-3G.
- REF. AGUSTA T/N: 3G6305G17131.

DART AEROSPACE																									
TITLE TOOL, PUMP 1-2-3 DRIVE QUILL SEAL HOUSING REMOVAL																									
DWG NO. RBW6305G17131-3G	REV 3																								
<table border="1"> <tr> <td>MAT'L</td> <td>UNLESS OTHERWISE SPECIFIED</td> </tr> <tr> <td>HEAT TREAT</td> <td>DIMENSIONS ARE IN INCHES</td> </tr> <tr> <td>FINISH</td> <td>.XXX ± .005 FRACTIONS ± 1/8</td> </tr> <tr> <td></td> <td>.XX ± .01 ANGLES ± 5°</td> </tr> <tr> <td></td> <td>.X ± .1 SURFACES = 125/✓</td> </tr> <tr> <td>SPEC</td> <td>1. BREAK ALL SHARP EDGES .015 x 45° OR .015R</td> </tr> <tr> <td>DRAWN BY: CLOUGH</td> <td>2. DIMENSIONAL LIMITS APPLY AFTER PLATING</td> </tr> <tr> <td>CHECKED: RJC 04/26/2017</td> <td>3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009</td> </tr> <tr> <td>OPPS APPR: AA 05/05/2017</td> <td>USED ON MODEL</td> </tr> <tr> <td>QA APPR: JL 05/10/2017</td> <td>AW139</td> </tr> <tr> <td>APPROVED: JAG 06/01/2017</td> <td></td> </tr> <tr> <td>SCALE 1:3</td> <td>DATE 2/3/2011 SHEET 1 OF 5</td> </tr> </table>		MAT'L	UNLESS OTHERWISE SPECIFIED	HEAT TREAT	DIMENSIONS ARE IN INCHES	FINISH	.XXX ± .005 FRACTIONS ± 1/8		.XX ± .01 ANGLES ± 5°		.X ± .1 SURFACES = 125/✓	SPEC	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	DRAWN BY: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING	CHECKED: RJC 04/26/2017	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009	OPPS APPR: AA 05/05/2017	USED ON MODEL	QA APPR: JL 05/10/2017	AW139	APPROVED: JAG 06/01/2017		SCALE 1:3	DATE 2/3/2011 SHEET 1 OF 5
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SCALE 1:3	DATE 2/3/2011 SHEET 1 OF 5																								

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			-1	1	FRAME	6061		2
			-3	1	TWO HALF KEEPER	6061		3
			-5	1	LOCK RING	6061		4
			-7	1	PULLER	4140/4142		5
		B/O	-9	1	WASHER	ALUMINUM	Ø5/8 I.D. X Ø1 O.D. X .063 (MCMASTER-CARR #92661A745)	1
		B/O	-11	1	6 LOBE KNOB	PLASTIC	5/8-11 X Ø3.27 X 1.57 (MSC #52216553)	1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



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PURCHASE ORDER

PO039084

Items											
Line Item	Part	Supplier Part No	Item No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
Line Item Note	job# 172405										
23	RBW6305G13731-3GP			Gimball Carbon Seal Remover As Per Dwg RBW6305G13731-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$362.28/Ea	\$1,086.84
Line Item Note	job# 172401										
24	RBW6305G13231-3GP			Gimball Carbon Seal Installer As Per Dwg RBW6305G13231-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$984.42/Ea	\$2,953.26
Line Item Note	job# 172399										
25	RBW6305G14031-3GP			Gimball Carbon Seal Remover As Per Dwg RBW6305G14031-3G Rev. 2	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$639.24/Ea	\$1,917.72
Line Item Note	job# 172397										
26	RBW6305G14331-3GP			Upper Module Lip Seal Installer As Per Dwg RBW6305G14331-3G Rev. 1	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$758.42/Ea	\$2,275.26
Line Item Note	job# 172382										
27	RBW6305G18251-3GP			Guide Pumps/Ecs Drive Quill Seal Housing Installer As Per Dwg RBW6305G18251-3G Rev. A	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$132.32/Ea	\$396.96
Line Item Note	job# 172381										
28	RBW6305G17631-3GP			Tool Pump 1-2-3 Drive Quill Lip Seal Remover As Per Dwg RBW6305G17631-3G Rev. B	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$496.30/Ea	\$1,488.90
Line Item Note	job# 172378										
29	RBW6305G17931-3GP			Tool Pump 1-2-3 Drive Quill Lip Seal Installer As Per Dwg RBW6305G17931-3G Rev. B	Firmed	4/9/18	3 Ea	0 Ea	3 Ea	\$392.72/Ea	\$1,178.16
Line Item Note	job# 172377										
30	RBW6305G17131-3GP			Drive Quill Seal Housing Removal Tool As Per Dwg RBW6305G17131-3G Rev. 3	Firmed	4/16/18	3 Ea	0 Ea	3 Ea	\$905.64/Ea	\$2,716.92
Line Item Note	job# 172376										



ARROW TECH MACHINE WORKS

Certificate of Conformance

Your Purchase Order No: 039084

Dated: 04/24/2018

Our Order / Job No: 03AWT Order Qty: 3 Assemblies

Part Name: Tool, Pump 1-2-3 Drive Quill Seal Housing Removal

Part Number: RBW6305G17131-3G

Lot Size: N/A Ship Date: 04/24/2018

We certify that these parts shipped to you are of domestic or international manufacture and conform to all requirements of the Purchase Order. These parts have been manufactured and inspected in accordance with all required specifications, instructions and drawings. Any applicable specifications are listed below:

Drawing Number: RBW6305G17131-3G Rev: 3

Material Size and Type: -1/6061 Alum.; -3/6061 Alum.; -5/6061 Alum.; -7/4140 STEEL

Material Specifications: Aluminum-ASTM B221;

Heat Treatment: N/A

Plating/Finish: Clear Anodize: MIL-A-8625F, TYPE II, CLASS I; ZINC PLATE: ASTM B633 TYPE 1 SC 2

Mercury Contamination: The material used to process this order has not come in contact with mercury or mercury bearing instruments.

Date: 4/24/18

Signed: Arment m. f. d.

APR 26 2018

PHGE Machine Works LLC dba Arrow Tech Machine Works
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